

ALUMINIZING SLURRY COMPOSITIONS
FREE OF HEXAVALENT CHROMIUM, AND
RELATED METHODS AND ARTICLES

ABSTRACT OF THE DISCLOSURE

[0089] A slurry coating composition is described, which is very useful for enriching the surface region of a metal-based substrate with aluminum. The composition includes colloidal silica and particles of an aluminum-based powder, and is substantially free of hexavalent chromium. The slurry may include colloidal silica and an alloy of aluminum and silicon. Alternatively, the slurry includes colloidal silica, aluminum or aluminum-silicon, and an organic stabilizer such as glycerol. The slurry exhibits good thermal and chemical stability for extended periods of time, making it very useful for industrial applications. Related methods and articles are also described.